

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

#### **Listing of Claims:**

1. (Currently Amended) A decentralized computing environment, comprising:  
a number of nodes, each node in the number of nodes being capable of being a neighboring node of other nodes in the number of nodes, each node being capable of querying the availability of neighboring nodes for a match, the match being formed when a first node queries the availability of a second node and the second node queries the availability of the first node, with state of ~~the second~~both nodes being set to true in the case of a match and the contents of ~~that~~each node's neighbors array or alternative data structure cleared.
2. (Original) The decentralized computing environment of Claim 1, wherein another match is formed when the first node queries the availability of the second node and the second node responds with a yes message.
3. (Original) The decentralized computing environment of Claim 1, wherein no match is formed when the first node queries the availability of the second node and the second node responds with a no message.
4. (Original) The decentralized computing environment of Claim 1, further comprising an inviter that invites the number of nodes to communicate to find a match.
5. (Original) The decentralized computing environment of Claim 1, further comprising a new node being dynamically introduced to the decentralized computing environment, the new node being capable of querying the availability of neighboring nodes for a match.
6. (Previously Presented) A computer-implemented protocol for matching

communicable nodes in a dynamic, decentralized computing environment, the protocol comprising: inviting nodes to communicate to find a match; discovering matching availability of nodes by sending availability messages; and forming a match where upon sending another availability message from a first node to a second node, the second node sends a message selected from a group consisting of an availability message and a yes message, with state of the second node being set to true in the case of a match and the contents of this second node's neighbors array or alternative data structure cleared.

7. (Original) The protocol of Claim 6, wherein the act of inviting is executed by an inviter, the inviter identifying a first node and a second node that are neighbors and sending an invite, which contains addresses of the first node and the second node, to the first node, the inviter further sending another invite to the second node.

8. (Original) The protocol of Claim 7, further terminating the protocol if the first node has already been matched to another node, otherwise, the protocol sending an availability message to the second node to determine its availability for a match.

9. (Previously Presented) The protocol of Claim 8, receiving by the second node the availability message sent from the first node, the second node answering with a no message to the first node if the second node has already been matched to another node, otherwise, a taken state of the second node is set to true signifying that the second node being matched to the first node.

10. (Original) The protocol of Claim 9, further comprising setting a taken state of the first node to true signifying that the first node is matched to the second node.

11. (Previously Presented) A computer-readable medium having computer-executable instructions for performing a method for matching communicable nodes in a dynamic, decentralized computing environment, the protocol comprising:

inviting nodes to communicate to find a match;

discovering matching availability of nodes by sending availability messages; and

forming a match where upon sending another availability message from a first node to a second node, the second node sends a message selected from a group consisting of an availability message and a yes message, with state of the second node being set to true in the case of a match and the contents of this second node's neighbors array or alternative data structure cleared.

12. (Original) The computer-readable medium of Claim 11, wherein the act of inviting is executed by an inviter, the inviter identifying a first node and a second node that are neighbors and sending an invite, which contains addresses of the first node and the second node, to the first node, the inviter further sending another invite to the second node.

13. (Original) The computer-readable medium of Claim 12, further terminating the protocol if the first node has already been matched to another node, otherwise, the protocol sending an availability message to the second node to determine its availability for a match.

14. (Original) The computer-readable medium of Claim 13, receiving by the second node the availability message sent from the first node, the second node answering no to the first node if the second node has already been matched to another node, otherwise, a taken state of the second node being set to true signifying that the second node is matched to the first node.

15. (Original) The computer-readable medium of Claim 14, further comprising setting a taken state of the first node to true signifying that the first node is matched to the second node.